DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF MARINE SAFETY

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In the Matter of:

MAJOR MARINE ACCIDENT,
DCA 03 MM 032
_____

May 26, 2003

INTERVIEW OF:

TOR HOYLAND

The above entitled matter came on for hearing, pursuant to notice.

PRESENT:

TOM ROTH-ROFFY, NTSB
BRIAN CURTIS, NTSB
BARRY STRAUCH, NTSB
CARLOS PAILLACAR, USCG
GREG CALLAGHAN, USCG
STEVE CMAR, NCL
JOHN BUTCHKO, Miami Dade Homicide
NANCY MCATEE, NTSB
CAPTAIN HUUS, Bahama Maritime Authority

P R O C E E D I N G S

MR. ROTH-ROFFY: Good afternoon. The date is the 26 of May 2003 and the time is about 1:30 in the afternoon. And we are here to interview Mr. Hoyland, second engineer onboard the Norway.

Sir, for your information, my name is Tom Roth-Roffy. I am a Marine Engineering Accident Investigator with the National Transportation Safety Board in Washington, D.C. And we are here to conduct an investigation of the accident that occurred on the Norway yesterday.

Our investigation is strictly a safety investigation. It is not a legal investigation. And we will make no attempt to identify person responsible for the accident or to assign blame, so, again, it is not a legal investigation. It is strictly safety. Our intent is to determine the cause of the accident, if we can, and then to make recommendations aimed at preventing future similar accidents.

So, at this time I would like to go ahead and have everybody in the room introduce themselves, with their affiliation.

MR. CURTIS: Brian Curtis, NTSB, Marine Engineering, Accident Investigator.

MR. STRAUCH: Barry Strauch, NTSB, Human Performance Investigator.

LIEUTENANT CALLAGHAN: Greg Callaghan, U.S. Coast Guard, Marine Safety Office, Miami, Marine Inspector.

MR. PAILLACAR: Carlos Paillacar, U.S. Coast Guard, Miami Investigation.

MR. CMAR: Stephen Cmar, Norwegian Cruise Line.

MR. BUTCHKO: John Butchko, Miami Dade Police Department, Homicide Bureau.

MS. MCATEE: Nancy McAtee, NTSB, Fire Explosion Specialist.

CAPTAIN HUUS: Captain Huus, Bahama Maritime Authority.

MR. ROTH-ROFFY: Okay. That is everybody in the room with the exception of the attorney. Sir, you have a right to have somebody assist you with the interview and is it your desire to have this person here assist you? And could you identify yourself.

MR. FARKAS: My name is Dan Farkas. I am an attorney representing Tor here and I have my assistant also with me.

MR. ROTH-ROFFY: Okay. Okay. So, we will go ahead and begin the interview, sir.

EXAMINATION OF MR. HOYLAND:

BY MR. ROTH-ROFFY:

Q Sir, if you would just think back to Saturday

evening when you went to bed, you know, you work up Sunday, whatever time you got up on Sunday, and describe everything that you did in as much detail as you can, to a time after the explosion. Go ahead, sir.

MR. FARKAS: Just for clarity, can we use dates.

MR. ROTH-ROFFY: Sure.

BY MR. ROTH-ROFFY:

Q We are talking about Sunday, the 25th. You can start there. Which watch do you have, sir?

A Four to eight.

Q Four to eight. So, you woke up on Sunday morning, the 25th.

A Yes.

Q Could you just start from there? What time you woke up?

A I walked down to the engine control room before, a couple of minutes before four o'clock in the morning. About 10 minutes, about 10 minutes before. It was standby. It was standby operation. I was there just normal standby operation.

We come along side Port of Miami. Everything looks normal. When the standby was -- I was standby, people walked out on the end of the -- and I was relieved of my duty. But, everything still looks normal. And standby is complete, over, I don't remember exactly when, three, four -- something before, I don't know exactly.

Zero, six, thirty seven was a big explosion. Only a few minutes before I had been working around in the engine control and it looked all, all, everything looks fine in engine control from the point of time, from the main switchboard. Everything just looks normal. And I went back to the -- was stopped by, everything on their computer, standby notebook. And that is when it happened. The big explosion. I talked to the -- and saw the smoke coming in the door from the starboard side. And I called the chief engineer. He was there very, very fast. I know I was sitting in the control room, making notes. And that is it. I was there all the time. I didn't leave the engine room, control room before abandon ship signal.

Q Anything else you would like to add?

A No.

Q Okay. So, a little more detail. When you went down to relieve the watch, what was the name of the person you relieved?

A The person I relieved was Tron Kristensen.

Q And when you relieved --

A I --

MR. FARKAS: Having him look for the name.

(Pause.)

MR. FARKAS: Would you spell that for the record, so we all have it?
MR. ROTH-ROFFY: Sure. K-R-I-S-T-E-N-S-E-N.
MR. FARKAS: E-N? Thank you, sir.
MR. ROTH-ROFFY: Kristensen.
BY MR. ROTH-ROFFY:
Q And did Mr. Kristensen tell you anything about any problems that he had had on the previous watch, when you relieved him?
A No. It was, everything was normal. There was no, nothing at all.
Q Did he say anything to you when you relieved him? What sort of things did he tell you, do you recall?
A About what is going on in the control room -- the standby and he was sitting there and taking care of the boats, both sides --
Q Your watch duties are to stand watch in the control room or do you also work in the boiler room?
A I also am working down below every second day, I was stand in the engine control.
Q Okay. On the other days you work down below in the --
A Yes.
Q In the turbine room.
A Only -- but, on standby, I am in aft engine room, -- engineer in afternoon, one engineer in the boiler room during standby.
Q After the ship arrived in the Port of Miami, what were your duties in terms of transition from underway to in port? Were you involved in securing the main engine?
A Everything is secured and stopped with this, with this -- before the standby is over.
Q Okay. So --
A When I was there everything looked in good condition and was in normal duty to Miami.
Q Before the explosion, did you have any alarms?
A Nothing. Nothing at all. No indication for anything, anything.
Q Can you recall what the last alarm was that you had on your watch before the explosion?
A I don’t remember.
Q Can you recall about how long it had been since you had gotten an alarm? Can you maybe estimate, was it five minutes, 10 minutes or an hour from the time that you had the last alarm?
A I cannot remember. I was sitting there and -- and the big explosion come then. And computer started alarming a lot, complete blackout of the -- and that is it.

Q Before the explosion, did you heard a rumble or a vibration?
A Nothing at all, nothing before the explosion, with all the engines, any kind of -- No, it just happened.
Q What are your normally assigned areas in addition to watch? What equipment or area do you work on for maintenance?
A Turbo generators.
Q And how turbo generators were running that morning before the explosion?
A Six -- Wait a minute.
(Pause.)
MR. HOYLAND: It should be five, five generators.
BY MR. ROTH-ROFFY:
Q And how many generators are there?
A Six.
Q Which generator was shut down?
A Turbo generator number 12.
Q And how long had that number 12 generator been shut down?
A We don't use this one --
Q I am sorry, can you say that again? You use which one forward?
A Diesel generator.
Q Okay. Was that running at the time?
A Yes.
Q Is that a single diesel generator that was running or is there more than one?
A One big diesel generator, and two small ones.
Q And the two small ones also were running?
A Yes.
Q Do you recall what the fuel oil pressure was on the burners for the boilers before the explosion?
A They were about one something. Fuel oil pressure on the boilers, they are about one point something.
Q One point something bar.
A Yes.
MR. FARKAS: Do you want to take a break?
MR. HOYLAND: If I could have some water.
MR. FARKAS: Okay.
(Pause.)
BY MR. ROTH-ROFFY:
Q And what is the normal pressure range for these boilers?
A It varies --
Q What does it very high to low, say full speed at sea, what would the pressure be?
A The pressure was 5.6, something like that.
Q And normally in port with light load, would

the pressure normally be one point something bar?
A Yes, it depends on the load on the generators, but one point was --
Q Normally at sea with high load you have five burners lit off, firing. And at some point when you come into port or slow down --
A We take off one, sometimes two burners on each boiler.
Q And which burners would you normally shut off or did it vary?
A The upper one and then other one.
Q Okay. So you would do the upper one first, and then the lower one? Or would you do the lower one first and then the upper one?
A This is --
Q I am sorry, could you repeat that, because I didn't quite understand it. Normally the first burner that you shut off would be, which one?
A Number one, that is normally, we always take off the highest number.
Q And who would give that order to shut off one burner? Would you do it from the control room or would the, who would do it?
A The stoker in the boiler room do it automatic.
Q So, if you are running at full speed at sea and then you slow down, at what fuel oil pressure would you cut out a burner or would you shut off the burner, or do you know, approximately?
A Normally we keep both burners, we are on the burner low load, we have to keep our eye on the oil pressure all the time and boiler pressure. That is, that was --
Q So you don't have a particular fuel pressure, say when it hits two bars that you shut off one burner?
A I cannot remember at this time.
Q Okay. Normally do you rotate your watch assignment, do you sometimes go into the boiler room to stand watch or do you always stand in the control room?
A It is always one engineer in the control room, at least one down below in the engine room. But, the one standing in the engine room, has the whole engine room, not just this area. Normally, you work on your own, more or less all the time. Standby, you are in the boiler room and off the engine room and one guy forward, the forward engine room.
MR. ROTH-ROFFY: Okay. I am going to go ahead and pass it to the next interviewer for questions.
MR. FARKAS: Do you want to take a break?
MR. HOYLAND: Can I take 10 minutes?
MR. ROTH-ROFFY: Okay. The time is about 10 to two, we will go ahead and take a 10 minute break.

(Whereupon, a short recess was taken.)
MR. ROTH-ROFFY: Okay. The time is about five minutes after two o'clock in the afternoon and we are resuming our interview with the second engineer, Mr. Hoyland.
And Mr. Brian Curtis was up next.
BY MR. CURTIS:
Q Yes, Brian Curtis, Mr. Hoyland.
You said you relieved Mr. Kristensen, what is his position?
A He is 2nd engineer.
Q Second engineer. Okay.
And regarding the explosion, was it just one explosion or was it a series of more than one or --
A Only one big explosion.
Q One big explosion.
A And a lot of vibrations, only one.
Q Okay. Regarding the boiler burners, any past history of high carbonization on those boiler tips or they seem to carbonized, that particular boiler or any of the boiler seem to accumulate a lot of carbon over an abnormally short period?
A No, everything looks --
Q And the tips you are using, you have been using them for some time, you haven't recently gone to a different size burner tip?
A Yes, but, that is my job, so, I am not the one to ask that.
Q After the explosion, did you go into the engine spaces?
A I had been in the engine room after --
Q Did you go after, immediately after the explosion, did you go into the engine spaces?
A I was there when they secured the boiler room. I was -- for securing the boiler room.
Q Now was there any fuel secured, what did you secure post explosion?
A Secured oil tank and -- tank secured.
MR. CURTIS: That is it for right now.
MR. PAILLACAR: Carlos Paillacar, U.S. Coast Guard.
BY MR. PAILLACAR:
Q During your watch, do you have any set Comm schedule or reporting requirements or do you spend four hours without talking to the people down in the engine room? Are they are required to report to you after, you know, half an hour, an hour, do they call you, do they tell you everything is normal?
A We had a very good conversation down there. We had a very good team there. We are talking a lot, and -- we spoke all the time. I talked to all of them very often, what is going on. And also the engine -- is

passing the controller sometime for to pick up some information or he would give us some information and then -- So, we always have a little information to each other.
Q Do you remember when was the last time you talked to the people down below? Or they came up to the control room?
A The other, second engineer has been in contact a very short time before accident. And I also talked with the third engineer by the phone. He answered my phone in the boiler room.
Q Okay.
A This is only a few minute before explosion.
MR. BUTCHKO: I have a few questions. John Butchko, Miami Dade Police, Homicide.
BY MR. BUTCHKO:
Q Do you know most of, most of the men that are working down there, do you know anybody by name, you know Mr. Vaquesuela(ph)?
A I --
Q And do you know --
A I heard the name, but, I cannot see the person, I don't all of the --
Q Okay. How about Rosalol, do you know who he is?
A Yes.
Q Do you know where he was working at the time of the explosion?
A That was the guy I talked to only a couple of minutes before I talked to the boiler room. But, he was, this was during --
Q Okay. I am sorry, was what?
A Rosal was -- in the operation.
Q Okay. He was down by the boilers.
A Yes. The last time I talked, was in the boiler room.
Q Okay. That was by phone, not in person?
A Only by phone, yes.
Q And during your duties, while you are in the control room, are you, are you authorized to leave the control room to go anywhere in the engine area, including the boiler area? Or do you have to stay in that boiler room, or I am sorry, that control room for that entire time?
A I just stay in the control room. And if I want to go down, the other second engineer has to stay in control room.
Q Okay. And the other second engineer, you said, would have to stay there if you leave.
A Yes.
Q Who was the other second engineer that was working while you were working?

A Benjaminsen.
Q Could you say the last name again?
A Benjaminsen.
Q And I don't know if you will be able to answer this or not, but, I don't have a lot of experience or a lot of knowledge about boilers and the system with the boilers like this. Is there, is there anything that you would know if there is something that we can check into, is it possible that one employee working in the boiler room area, can do something that would result in an explosion, push a wrong button, close the wrong door, by accident? Is it possible that one person, a human being, down there at the boiler room could cause an explosion like this? Is that something that somebody can make a mistake that would cause the explosion?
A They had a lot of experience.
Q I realize with the experience, but is there something that, is it possible? I am not saying it happened in this case and I am not pointing a finger at anybody, but, is it possible that a person working at the boiler could make a mistake that could cause an explosion, even, even with experience? And again, I am not saying that happened here, because I don't know if that happened, but is that something that could happen?
A No.
Q Is there any unsafe procedures, maybe if I ask it that way, is there any unsafe procedures that can be done by an employee at a boiler that can cause an explosion? Mix the wrong fuel, whatever, is that possible to do? Let's say an inexperienced person, let's say I was down at the boiler room, can I cause an explosion by myself?
A Well -- fuel down there, but it was under steam pressure in the boiler, with safety valves. It is not possible.
Q Not possible, okay.
And are there any employees that work in the boiler area and I don't know if you are the right person to ask this, that has been disciplined for unsafe practices or doing something in the boiler room that you deemed unsafe, do you know if any of your employees that have been disciplined for that?
A They do all as safe as possible.
Q Okay. So you don't know of any that have had to be disciplined for doing an unsafe practice or doing something they shouldn't be doing at the boiler room?
A No.
MR. BUTCHKO: Okay. I have no further questions.
MR. CMAR: I don't have any questions.
MR. STRAUCH: I have a few questions.

MR. ROTH-ROFFY: Barry Strauch, NTSB.
BY MR. STRAUCH:
Q Mr. Hoyland, could you describe for us, I am also not familiar with your work. Can you just describe what your duties and responsibilities are?
A My responsibility going to this accident, in the control room. My responsibility is, is to take care of the all the instruments and if something is wrong, try to pick it up as soon as possible. And keep an eye on the -- on the scale all the time. And check it out, what color alarm and I will call down and -- The screen level below, if it is -- enough, then you -- in the control room.
Q All right, you said you tell the guys what to do, does that mean you also supervise people?
A We are all have very good conversations. Nobody, they know what to do --
Q During operations, how many people are below and how many people are above?
A The control room, during normal operation, only one guy there.
Q Okay.
A And then down, there is one in the forward. There is one guy in the boiler room. There is one second engineer working the boiler -- and one worker.
Q At the time of the explosion, was this the compliment of people that were there, the people that you just described?
A Yes.
Q Okay. Were any of these people relatively new with experience, or did everybody come --
A -- yes.
Q Any others?
A -- have been on this ship since November.
Q Okay.
A The second engineer for about a year.
Q How long have you been on the ship?
A I start in June '94.
Q You have been on the ship the whole time since then?
A I have been two years at shore.
Q In those two years, were you, what kind of duties were you doing then in terms of --
A I was working -- a step up.
Q What years were that?
A Huh?
Q What years was that?
A It was late 2000 to 2002.
Q All right. So you worked there for six years, took two years off and then you came back and you have been there about a year since then.
A Yes.

Q Okay. From the time you came back, from the time you left, to the time you came back in May of 2000, did anything change in the boiler room?
A I wasn't working this ship all the time.
Q Okay. Could you tell us what years you with the ship and what years you were on different ship?
A On this ship?
Q Yes.
A I come back to this ship, November 2002. I have one contract on this ship, a couple of years ago. I have only three contracts.
Q Okay. So, from the period between June '94 and the present, about how long have you worked on this ship?
A From '94 to now?
Q Well, from '94 until now, how long have you been on this ship?
A First when I worked on the Norway was, the middle of December '98. I signed on for '99. And after I transferred to company, I was working on the -- and then I went ashore.
Q Okay. So other the years that you were working for a different company?
A Yes.
Q Okay. So, the only time you worked for the Norwegian Cruise Line was on the Norway?
A --
Q Any time you have worked on the Norway, how, have you seen any type changes in either the machinery, itself, or the reliability of the machinery?
A Before, more people down there, in the time.
Q Okay.
A I was --
Q Okay. About how many people were there when you first started?
A I contracted in '98 and '99. It was -- in the control room and -- a watchman in the forward, one in the boiler room. And the second engineer was in both, three or four second engineers stayed below.
Q What has been the effect in the reduction in the number of personnel, what has been the effect of the reduced number of personnel on the operation?
A Much more to do for the others.
Q Much more to do for you to do and everyone to do?
A Yes, for the guys down below it is a much more to do for them.
Q Has this had any effect on the reliability of the machinery?
A It is difficult to say.
MR. FARKAS: Please don't guess. If you know, just answer the question.

BY MR. STRAUCH
Q Well, let me ask this. If part of your job and part of other people's jobs are to respond to readings that are, that indicate that something needs to responded to.
A Yes.
Q Has there been any change in the number of things that need to be responded to, that -- been fewer people?
MR. FARKAS: Can you ask that again?
MR. STRAUCH: I am not sure I can.
MR. FARKAS: Because I don't know if I understood. Do you understand the question?
MR. HOYLAND: No.
MR. FARKAS: I am sorry, I didn't understand the question.
MR. STRAUCH: It really wasn't a good question.
BY MR. STRAUCH:
Q What I am trying to say, without trying to lead you, is with fewer people, have you seen more alarms missed because there were fewer people around?
A Well, it is so important the alarm coming, we react.
Q Okay.
A As fast as possible, we react. That is --
Q Now the speed with which people have responded changed at all with the reduction in the number of people?
A I don't know, I only did contract for --
Q Okay. Just one other question. Has there been a change of in the number of unusual events since, from the time you started with this ship to the present?
A I --
Q I don't want to say emergency, abnormal events, or things that are bad you know, increases, changes of things that are bad with the system.
A You will have to ask someone else.
Q Okay.
MR. STRAUCH: Fine, thank you.
MR. ROTH-ROFFY: Okay. We will go ahead and make another round.
BY MR. ROTH-ROFFY:
Q Tom Roth-Roffy again. You mentioned that you spoke with the third engineer in the boiler room by phone.
A Yes.
Q A short while before the explosion. About how many minutes would you say that was?
A Approximately 10 minutes.
Q And do you recall what was said, what he told

you or you told him? What the reason was for the conversation?
A I asked him about the -- and -- the temperature -- reduced, the temperature was going down already.
MR. ROTH-ROFFY: Okay. This tape is about ready to run out. So, ahead and take a break right now and shut the tape recorder off.
(Change of tape.)
MR. ROTH-ROFFY: Back on the record. Okay. The time is about 2:52 and we are resuming our interview with Second Engineer.
BY MR. ROTH-ROFFY:
Q I am sorry, the question I had asked you was the ballast operation, which tanks were to be ballasted, or deballasted, if you can recall that?
A Yes, 12.5, 12.6, 11.5, 11.6, 10.11, 10.12, 111.2 and the --
Q Okay. So all of these tanks were to be deballasted.
A Yes, yes.
Q Okay. And do you know about how far along they had gotten in this deballasting? Had they just started?
A Normally we start deballasting a few minutes after arriving, as soon as possible, we start.
Q And how long would it take to deballast all those tanks, usually?
A Normally it should be finished about noon.
Q During the maneuvering into Port of Miami, did you notice any other problems with the fuel oil temperature, high?
A No.
Q Okay. So it was just one time that you noticed it was about 140.
A Yes.
Q You also said that the second engineer had come into the control room sometime before the explosion.
A Yes, because he was going to sign up and -- he came to the control room -- and he went down to say goodbye. And he went forward and he, and he make ready for going to Immigration. He went forward, and he went out on that particular pressure, only short time after he left, explosion happened. But, he had been in the boiler room only, maybe about five minutes before and everything just looks normal there.
Q And what was his name, the second engineer?
A Benjaminsen.
Q Benjaminsen.
MR. FARKAS: He is up next.
MR. ROTH-ROFFY: Okay.

BY MR. ROTH-ROFFY:
Q You said you spoke with somebody in the boiler room by telephone, who was that you spoke with, was it with the --
A Rosal, third engineer.
Q Okay.
(Pause.)
MR. ROTH-ROFFY: Okay. Go ahead and make another quick round.
Brian Curtis.
MR. CURTIS: Brian Curtis.
BY MR. CURTIS:
Q Mr. Hoyland, whose responsibility was it to take the engine room readings on a periodic basis, the oilers, the stokers, or whose responsibility was that for the logbook?
A Potentially -- in the control room. Most of the things I take off from the computer in the control room.
Q Okay.
A And about seven, about 7:40, I will expect the -- to come with all the times, information.
Q Okay. So, the pressure and temperatures are taken from the computer and not from the actual gauges on that site?
A Yes, that is right.
Q And those are entered in the logbook once for each watch, all your readings are entered once for each four hour watch?
A Yes, when I working this port watch, I hadn't started the engine log, because --
Q Okay. So you hadn't --
A Every four hours.
Q So on your watch, you hadn't entered those numbers in the logbook that, yesterday morning?
A No. When I start, we have the blackout.
Q Okay. And the other watch engineers, they, do they log their entries about the same time of the watch, mid watch, usually?
A We have log, the last time -- it is 24 watch slot.
Q Okay. And you didn't notice any abnormalities in those previous watch readings, you didn't notice anything out of the ordinary?
A Was during the maneuvering.
Q Okay. On the fuel burners, themselves, do you have a manual valve in line with the cylinode, is that how it, the fuel to the burners?
A It was, there was a manual valve.
Q All right. So, if you secure that burner, the cylinodes close, correct?
A Yes, and it is also a manual valve.

Q Yes. Okay. So, so, if you cut out number five, even though the cylinode is closed, you still close the manual valve as well? As a general rule of operation?
A They did that, standard.
Q Okay. As part of the Safety Management System, do they have checklists for boiler operations, how to light the boiler off, light the burners, do you follow a checklist by the Safety Management System code or do they have checklists in the engine room?
A We have a lot of checklists in the engine room, yes. We are, when the boilers is taking off or something, we don't note this.
Q Because it is routine, considered routine?
A Yes.
Q Now, as far as lighting the boiler off, is that a checklist that is, do you sign a checklist for that and put it in your logbook when you actually light a boiler?
A We sign the checklist. We have it, make sure everything is okay.
Q And where are those checklists kept?
A We have it in the engine control room. We have the checklists there.
MR. CURTIS: That is all I have right now.
BY MR. PAILLACAR:
Q Yes, Tor, this is Carlos Paillacar, again, from the U.S. Coast Guard.
After your actions after the explosion, the fuel was secured as you stated also, and you knew that it was an explosion within the engine room compartment of your vessel when you heard the explosion, didn't you?
A Yes, it couldn't be anywhere else.
Q Right. Where the water door and the fire door activated by you or by someone on the bridge at that time? Were there any damage control measures taken by anybody at that point? The water tight door, in specifics, were they secured at the time?
A I cannot answer this.
Q All right. Did the deck officer on watch secure the water tight door or you would have given, you know, a request to secure the water tight door at that point?
A Because a lot of information at the time through bridge officer, so I cannot answer this when the different doors closed.
MR. CMAR: Yes, Stephen Cmar. I will just have a few real quick questions. Okay.
BY MR. CMAR:
Q Now, who was on watch with you, do you remember their names, the people?

A Forward engine room Kristensen, Sumaylo, in the boiler room, stoker in the boiler room --
Q That is three so far, right?
A And second engineer, Benjaminsen. He went off before the explosion. And the watchman --
Q Is that it, and you?
A Yes, and me.
Q That was six, right.
A A total of six, yes. On this duty, yes.
Q And I just want to make sure of something, because I wasn't sure after this question was asked, that when you said fuel temperature before was high, was that normal or was that not normal from what was --
A It is, in this condition it is normal -- I had a phone call for information, but -- so, when I called it was already starting to go down.
Q Okay. And could you explain why, then why it is, why it happens, in your mind, if you know?
A I don't know.
MR. CMAR: All right, I don't have any questions.
BY MR. ROTH-ROFFY:
Q Tor, have you ever experienced or observed any type of a boiler explosion, even a small one before this accident on any ship you have been on?
A Before I, I have never been on a ship when it was explosion. I have been on a ship only a few days after explosion.
Q Do you have any idea what might have caused this explosion, on this ship?
A On the other ship?
Q No, on this ship here.
A This ship. I would not guess.
MR. ROTH-ROFFY: Okay. Barry Strauch, I was going to ask him his 72 hour history, do you want to do that as well as part of -- Okay.
BY MR. ROTH-ROFFY:
Q What I would like you to do, Tor, if you could, think back about three days, back to say, last Thursday, the 22nd. I believe you were in port then.
A St. Thomas.
Q Okay. Could you give me an idea of when you were awake and when you slept for Thursday, Friday and Saturday, you know, when you worked overtime, and just to get an idea of what we call the work/rest cycle? Say starting from, from Thursday morning.
A I have everything in my book, my work hours, my rest hours, everything is in book.
Q Okay. So, the hours that you were on duty would be logged. What about the hours that you slept. Could you give us some idea of when you normally went to sleep? You got off watch at eight o'clock in the

morning, would you have breakfast first?
A Yes. Talked with my friends. Sometime I start work, sometimes I go into my cabin to take a rest. I cannot say exactly what time I went to bed on these days. Whatever I just logged in book.
Q Okay. I guess we can take a look at your work, work logs and see if we can get an idea of how many hours you were working that day, but, in general, if you weren't working, would you be resting? How many hours a day would you work in a normal day in the past week or so, was it eight hours or 12 hours or 16 hours?
A Normally I work 10 hours a day.
Q And for the past week or so has it about 10 hours from what --
A Some days maybe a little longer, some days a little shorter. But, about 10 hours a day.
Q And about how many hours of rest or sleep would you get?
A I would have to say my rest and working hours are getting close.
MR. ROTH-ROFFY: Okay. Barry Strauch.
MR. STRAUCH: Yes, just one question.
BY MR. STRAUCH:
Q You said that when the temperature started to rise, the people downstairs responded to that?
A Yes. When, always, working on and looking on the boiler pilot and you can see the --
Q Okay. What would they have done in response to that?
A They have to go and make small adjustment on the -- But, I cannot say --
Q Make small adjustments to what?
A On the cylinode. -- to say about that.
Q Okay.
MR. ROTH-ROFFY: Okay. Tor, I think that is about all we have for you now. I appreciate you very much coming in and talking with us and thank you very much.
(Whereupon, the interview was concluded.)